



The North Dakota Seed Journal

JUNE 2006

Newsletter of the North Dakota State Seed Department

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Seed or Grain? Which Are You Producing?

Galen Briese, Certification Manager

As this issue reaches most of you, the planting season will have been completed and you are spraying and getting started with summer work projects.

With increased input costs, most producers are looking for ways to increase the net return for their crops. Many growers have done some forward contracting and locked in prices. Others have purchased new varieties that promise increased yields and better disease resistance packages, or specialty crops to meet niche markets. Still others have purchased Foundation or Registered seed with the intent to produce and sell certified seed. Certified seed production provides yet another marketing tool for producers. The distinct advantages of certified seed are well known; pure seed with high germination and vigor contribute to higher yield. Yet, there are producers that purchase Foundation or Registered seed who do not take advantage of the additional marketing opportunities provided by certified seed production.

This article is aimed at those who have purchased the higher quality certified seed and not even considered the certification option. Certification involves a number of proper production practices, field inspection, seed testing and final certification. The cost of field inspection for small grains, soybeans, field peas, for example, is \$2.00 per acre; edible beans are \$3.00 per acre.

Let's use wheat for comparison purposes and let's assume an average yield of 40 bushels per acre. It would only cost 5 cents per bushel for field inspection. Add approximately 50 cents per bushel for conditioning, and 4 cents per bushel for final certification. This adds up to 59 cents per bushel for direct certification expenses. Other costs you will need to consider include storage, transportation, labor for cleaning equipment and bins, etc. Some varieties have research fees, which for most wheat varieties is 30 cents per bushel on all bushels sold as seed. Don't forget to factor that cost in when setting your sales price.

If the price of good quality, market grade wheat is \$4.10 per bushel and the sale price of Certified class wheat seed averages about \$6.50 per bushel, then the difference between market wheat and certified seed is \$2.40 per bushel. Subtract the direct certification costs of 59 cents per bushel and you get a return of \$1.81 per bushel. Multiply 40 bushels per acre x \$1.81 for a gross return of \$72.40 per acre increased revenue.

Would this increased return make you consider producing certified seed? Certified seed production is a good option for increasing the profit potential of your farm.

If you are interested in producing certified seed call the ND State Seed Department for more details. We will be happy to help!

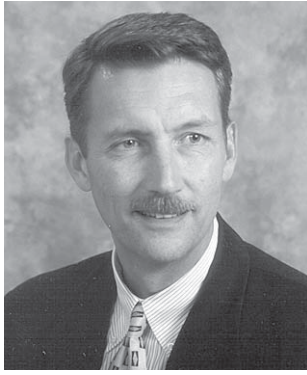
North Dakota State

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Seed Department

The North Dakota Seed Journal is published and edited by the Seed Department, State of North Dakota, under the provisions of Chap. 258, S.L. 1931, as administrative and instrumental matter required for effective transaction of the Department's business and for properly fostering the general welfare of the seed industry in the state.

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From the Commissioner's Desk

Maximizing Availability

You may notice a trend in this issue of the Seed Journal. I found out late in the process that our office conversations revolving around certified seed acres and production of preferred varieties had taken root in several articles. We are usually predicting trends based on what we see in final certified bushels and perceived industry need for crops and varieties at this time of year.

USDA planting intentions are only valuable to a certain extent in this highly un-scientific endeavor. Seed growers are often trying to forecast commercial producer preference and market demand by a full year or two (3-5 years in the potato seed industry), and they must try to predict a myriad of factors in deciding seed production. These factors may range from probable market demand for commodities (i.e. will spring wheat, durum or barley be worth more next year?) to potential demand for functional traits like scab tolerance (i.e., will we still be in a wet cycle?). A crystal ball is probably more useful to the seed grower and us when trying to pick acreages, crops or varieties.

I believe an important topic to bridge when discussing demand is this: when acquiring bushels of a newly released

variety, PLEASE APPLY FOR CERTIFICATION. That's right, we are pleading with growers fortunate enough to receive an allocation of scarce bushels to apply for certification. We aren't pleading because we want more acres to certify, the reason is much deeper.

For the good of the entire industry, the potential value of new and improved genetics to the industry means that the resulting production can and SHOULD be available to more growers the following year. This "spreading of benefit" cannot occur if the seed lot is not certified. Sure, you can use it on your farm next year, but nobody else benefits from the research, breeding and release of improved genetics. If you are aligned with a private company, this may be an automatic; it's not the case with public releases.

The best example of this problem could happen this year and I'll use a public variety as an example. Glenn is one of the few varieties on the market with scab tolerance, a valuable trait for wheat producers in this region, along with other solid quality and disease resistance properties. We have final certified something in excess of 180,000 bushels of the newly released variety Glenn spring wheat in foundation and registered classes, all of which is eligible for field certification in 2006.

Looking at our long-term production environment (wet) and biggest risk for wheat growers (scab), two things are apparent: our industry is in desperate need of scab tolerant varieties, and Glenn seed will likely be sought by a large number of wheat growers next year. These statements are obvious, the real question is if the majority of eligible seed planted will be certified, and available for sale in 2007?

We hear from university staff, county agents and seed growers that recipients of high-demand variety allocations don't plan to certify the seed. In my estimation, this is a shame...and it's not in the best interest of the ag industry. As public and private breeding programs release improved traits, the need to maximize commercial availability becomes even more important. If you

have been fortunate to receive an allocation, I believe the favor should be returned by certifying the field(s). Even if a small allotment is destined for use on the grower's own farm, ANY amount of saleable, legal seed is of value to the industry.

You can quickly estimate what 180,000 plus bushels of Foundation and Registered class seed should produce. Subtract cleanout and grower hold-back, then step back and look at the positive impact that could be realized if ALL of the eligible stock is inspected and eligible for re-sale.

The use of Glenn HRSW in this example is not an endorsement of the variety. It is just an example of the limitations of our ability to capitalize on demand, and broadly satisfy industry needs. Private companies are programmed for it; public systems aren't suited to (or dare) demanding the maximizing of supply. This becomes a more profound problem as trait-specific, conventional varieties are released by public institutions.

Lastly, this situation predisposes another serious problem: Brownbagging, or illegal transfer of protected seed. Those who believe the extra hundred bushels they don't need can be sold, or in any way transferred to a neighbor are dead wrong, not unless the seed is certified. As superior varieties are released, their value to universities, seed companies, seedsmen, growers and the entire ag economy increases. This value must be protected, and a fair/equitable availability to all growers must be maintained. PVP Title V satisfies both needs, and regulatory efforts will become a more high-profile tool to protect everyone's interests, not because regulatory work is fun, but because it is necessary for the greater good.

The takeaway here is this: if you are one of the fortunate few who drew an allotment, and have ANY potential for producing a saleable product, do the right thing and apply for field inspection.

Best wishes for a safe and profitable year,

- Ken Bertsch..... State Seed Commissioner
- Steve Sebesta..... Deputy Seed Commissioner
- Steve Marquardt..... Director, Potato Program
- Joe Magnusson..... Seed Regulatory Manager
- Galen Briese..... Seed Certification Manager
- Mark Hafdahl..... Seed Laboratory Manager
- Jeff Prischmann..... Diagnostic Laboratory Manager
- Kris Nicklay..... Administrative Officer
- Mike Oosterwijk..... Potato Program Supervisor

Seed Regulatory Update

Joe Magnusson, Regulatory Manager

The regulatory inspection team has pulled approximately 2,000 samples of various crops for truth in labeling testing.

Dirty Bins

Most of the problems we have seen in certified seed samples are contaminants of other crop seed. Upon further investigation, we found that the bins were not completely cleaned and the contaminants were at the bottom of the bin, thus contaminating the first load of seed that was drawn from that bin. All bins need to be cleaned thoroughly before a certified seed product, either unconditioned or conditioned is placed into them.

Handle Fragile Crops Carefully

Another major concern is the movement and handling of soybeans and pulse seed crops. Each time these crops are handled, there is potential for severe damage to the seed, increasing the inert material and a potential 10 percent to 30 percent decrease in germination. Both of these can cause a seed lot to be out of compliance with the label that can result in a stop sale order. (See related article in this issue).

PVP violations are costly

We have received several calls from seed producers concerned about farmers cleaning bin run grain of protected varieties and selling that seed to their neighbors. Most varieties of small grains and pulse crops are protected by the Plant Variety Protection Act (PVPA) with the certification option. Any variety protected by this option can only be sold as a class of certified seed. Anyone selling these varieties without completing the certification process is in violation of state and federal seed laws. Penalties for violations of this act can be as high as \$5,000 per violation, along with numerous labeling violations, each of which carry a potential \$5,000 fine. Additionally, the owner of the variety can also collect triple damages on the seed that is sold plus the seed produced from the illegal seed. The owner can also collect damages from the conditioner of that seed. **Reminder: These varieties cannot be sold as common seed to your neighbors or anyone else.**

New varieties benefit seed industry

Another concern being brought to our attention by the increase growers of Glenn wheat is that apparently many of the people who have purchased Registered seed this spring do not plan to certify their acreage. It appears they plan to save the production for their own farm and are not planning to certify that seed. Glenn, along with Freyr and Alsen, have the best genetic packages to control Fusarium Head Blight (scab), which destroyed many fields in North Dakota in 2005. If these acres are not certified, there will be no seed available to benefit growers that are in need of these varieties to combat this disease, and they will have to wait an additional year or two before seed will be available. The demand for these varieties sets up a potential brown-bag market for saved seed that is not planted on the grower's own farm. Growers are encouraged to apply for field inspection even if they are not sure whether they will complete certification. In order to be eligible for final certification seed fields must be inspected by the department.

Reminder #2: These varieties cannot be sold as common seed to your neighbors or anyone else.

Observations from the Seed Lab

Mark Hafdahl

It is now the middle of May and we have received just over 15,000 samples for testing. Last fall scab appeared to be a serious problem in most of the state and germinations reflected that. Germinations on wheat were frequently in the upper 70's. This spring, however, most of the wheat germinations that I have evaluated have been in the 90's. I think this improvement can be attributed to some very fine work by the seed conditioners. I'm sure there was a lot of clean-out, but the final product was a good one.

Field pea is the crop that had the most problems this year and I believe they were mostly related to seed moisture. At low moisture content, seed can't take much abuse during harvest and subsequent handling. Seed damage may not be detected visually but can have a significant impact on quality. When the weather is hot and dry at harvest time, seed moisture can drop quickly. One solution that comes to mind is to stop harvesting at lunchtime if possible. There were a few lots of soybeans that had the same problem this year. In both soybeans and field peas, if you notice split seed you are also doing severe damage to seeds that don't split. Proper management can help reduce this problem.

The main reason small grain seed fails to meet certification standards is contamination with other crop seeds. Prior to harvest this year, be sure to clean combines, trucks, bins and all the equipment used to harvest and handle the seed.



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Seed Department

Seed Department Deadlines

- June 15 ...** Field inspection applications due for all crops except conventional soybeans, buckwheat and millet.
Potato field inspection applications due.
- June 30 ...** License applications due for wholesale potato dealers
- July 1** Bulk certificates due
- July 15** Field inspection applications due for conventional soybeans, buckwheat and millet
- July 31** Labeling fee reports due
- Sept. 15...** Research fees due
- Oct. 1** Unconditioned carry-over seed report due
- Dec. 31** License applications due for Approved Conditioners
- Dec. 31** License applications due for Bulk Retail Facilities
- Dec. 31** License applications due for non-resident seed dealers

Plant North Dakota Certified Seed



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Easy Test Checks for Seed Damage

Steve Sebesta, Deputy Commissioner

Certain crops such as soybeans, dry edible beans and field peas are fragile and very susceptible to damage due to rough handling. Damaged seed not only affects the value of a crop grown for human food markets, damage can seriously affect the germination of a crop grown for seed. Obviously, the greatest potential for that kind of treatment occurs during harvest from combining. Proper management from harvest through conditioning is necessary to maintain the quality of these crops. With harvest season just around the corner it may be helpful to be able to monitor what is happening to your crop.

The procedure outlined below may be used to determine the percentage of seed damage due to combining or conditioning. In theory, this test will permit identification of damaged seed that is often undetectable



Pea sample with no visible evidence of damage.



Damaged peas detected with soak test.

by visual examination. If the seed coat is cracked or broken, it will swell and become loose after soaking in the solution. Research indicates damaged seed will not germinate.

While the original source of this test is unknown, it is effective. This test is also useful for seed conditioners. Testing pre-conditioned lots, as well as during conditioning, can help determine damage due to cleaning.

The photos below show the results after a sample of field peas were tested using this procedure. The original sample did not exhibit any damaged seed, but after soaking, the damaged seed were quite apparent.

Materials

- Small tray, large enough to hold 100 or more seeds
- Clorox bleach (5.25% sodium hypochlorite)
- Tap water

Procedure

- Mix approximately 3 fl oz. Clorox in 1 gal water.
- Place 100 seeds in tray. Exclude splits or obviously damaged seeds. For better accuracy, replicate the test.
- Pour enough Clorox-water solution into tray until all seeds are covered.
- After 10-15 minutes pour off the solution then spread the seeds on toweling so they can be checked.
- Count the number of swollen seeds. If replicated, determine the average.

Interpreting the results

- If there are more than 10% swollen seed, seed damage is excessive and combine adjustments are needed.

Precautions

- Even non-damaged seed left in solution more than 15 minutes may swell and appear damaged, when in reality they are not.
- Solution may be re-used, but not kept more than one day.
- This is not an officially recognized testing procedure that I can determine. Take it for what it is worth, another tool.
- As with all chemicals, take all precautions as directed by the manufacturer's label.

Thanks to Neal Foster, SD Crop Improvement Association, for information about this test.



This year's prize for the most creative sample submission is shown here. Although not endorsed as the best method for sending a sample in the mail, it certainly was entertaining. Could've been worse!

Pulse Crop Growers Encouraged to Submit Samples Early for Ascochyta Testing

*Jeff Prischmann,
Diagnostic Lab Manager*

With the increased number of Ascochyta tests conducted by the Diagnostic Lab over the past two testing seasons, growers are advised to submit samples as early as possible in late summer or early fall to make sure samples are tested in a timely fashion. As soon as a sample is available, an Ascochyta test can be performed. Early-season testing will allow us to more efficiently process your sample and in turn provide you and your customers with better service.

Another point to keep in mind is that your Ascochyta test result is only as good as the sample you submit for testing. Sampling is an extremely important part of seed testing that is often overlooked. The most important factor in sampling is obtaining a sample that is representative of the entire field or seed lot. This can be achieved by probing several bags, bins, or during seed conditioning and then compositing into a single sample. A portion of this sample can then be submitted for testing. Growers should also keep a reference sample on hand as a backup sample to go back to if needed. These sampling tips will help growers achieve a more accurate Ascochyta test result.

The department charges \$65 for Ascochyta tests on field pea, lentil, and chickpea using a sample or test size of 500 seed. Chickpea may be tested for Ascochyta using a 1,000 seed test. The current charge for this test is \$80. Ascochyta tests are required on the harvested seed of each field or seed lot of chickpeas and lentils. Please contact the department for more information.

First things first. Apply for field inspection.

Steve Sebesta, Deputy Commissioner

The department fielded a number of calls this spring from producers wanting to certify seed produced on fields that were not field inspected. For whatever reason they did not apply for field inspection and when the opportunity arose to sell that seed, they were not in a position to capitalize on it legally.

Certification requirements vary by crop, but there are two universal components to producing certified seed.

- 1. Field Inspection.** Supported by the documentation provided by the applicant and varietal information supplied by the breeder, the field inspection is designed to determine whether the field meets the established certified seed standards for genetic purity and varietal identity. The production field must be inspected during the growing season by a Seed Department inspector. Field inspection alone does not mean the seed is certified. It is the first step.
- 2. Final Certification.** Seed harvested from fields that have passed field inspection is eligible for final certification. That process involves the proper conditioning and sampling of the seed, and lab analysis to determine purity and germination percentage. In some crops, the presence of seed-borne disease and other tests may be required. The results of the lab tests are reviewed to determine whether the sample meets the certification standards.

Only seed that has passed field inspection AND final certification may be labeled as certified seed. All of the inspections and tests are intended to ensure the consumer is purchasing a product that meets the standards of the certification agency.

Growers who purchased Foundation or Registered class seed for planting in 2006 are strongly encouraged to apply for field inspection. The supply of certain varieties, especially new releases, or those that have desirable trait such as scab tolerance, is usually tight and the demand is almost always predictable. Don't miss an opportunity to increase your profit potential by producing certified seed.

Diagnostic Lab to Conduct Potato Virus Testing in July

Jeff Prischmann,
Diagnostic Lab Manager

Next month the Diagnostic Lab in Fargo will conduct the annual summer potato virus test for PVY. This testing service, provided to growers on a voluntary basis, is for anyone interested in submitting leaflet samples for PVY testing. As in the past, all G-1 seed lots must be tested for potato virus Y-necrotic strain (PVYn) as required by USDA-APHIS. PVY tests are required on all latent carrier varieties including Russet Norkotah, Shepody and Silverton, regardless of generation. All tests are conducted using an ELISA test and a 400-leaflet sample is required.

During early July, each grower will be sent an information packet containing a fact sheet on collecting and submitting samples for testing, sample tags and a test request form. Use the form to indicate whether you will be submitting samples for testing and which particular week you will send the samples to the department. To ensure proper identification, the sample tags must be returned with the samples. Again, look for this information in early July. Please contact the department if you have any further questions.

Research Fees Due September 15

Steve Sebesta, Deputy Commissioner

Many of the varieties released today, whether from public breeding programs such as NDSU or private seed companies are royalty-bearing. The Seed Department has collection agreements with NDSU Research Foundation, South Dakota Crop Improvement Association, Minnesota Crop Improvement Association, Montana AES, and Busch Agricultural Resources, Inc. to collect research fees on their behalf.

In 2005, the department collected research fees from 286 growers of 33 varieties. Only six growers failed to pay their fees, which translates into 98% compliance.

As required by contract, the names of the delinquent accounts were submitted to the variety owners for further collection efforts. Thanks to all labelers that paid the fees on time.

Based on last year's experience, we will likely make some minor modifications to our report form. Overall, we believe the process went relatively smoothly but we'll continue to look for improvements. Our goal is to minimize the amount of confusion that may exist and continue to educate growers and conditioners about the collection process and the positive impact of research fees.

This July, labelers will receive a Research Fee Report Form indicating the number of bushels of each royalty-bearing variety labeled in their name in 2005-06. The form will provide for the reporting of certain credits such as seed the labeler plants on his/her own farm, carryover, etc. Labelers are required to complete the form and remit payment to the Seed Department by September 15 for all bushels sold for seed.

Summer Hours
Effective June 1
office hours are 7:30 - 4:00
Monday through Thursday
and 7:30 - 3:00
on Fridays.

Seed Producers... be certain your seed fields have been inspected by ND State Seed Department inspectors **before** harvesting. Fields harvested before the inspection is completed will not be eligible for certification and you will forfeit the inspection fees.

If you are ready to harvest and you are not certain your seed fields have been inspected, call your inspector or the State Seed Department at (701) 231-5400.

North Dakota State Seed Department

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NDSSD Calendar

June 15 ... Field inspection applications due for all crops except conventional soybeans, buckwheat and millet

June 30 ... License applications due for wholesale potato dealers

July 1 Bulk certificates due

July 15 Field inspection applications due for conventional soybean, buckwheat and millet

July 31 Labeling fee reports due

Sept. 15 .. Research fees due

NDSU Field Days

June 28 Central Grasslands REC, Streeter

July 12 Hettinger REC

July 13 Dickinson REC

July 14 Williston REC

July 17 Agronomy Seed Farm, Casselton

July 18 Carrington REC

July 19 North Central REC, Minot

July 20 Langdon REC